

DEVELOPING SMALL AND MEDIUM ENTERPRISE (SME) BUSINESS PORTAL
BASED ON INFORMATION STRATEGY PLANNING (ISP)

NURULL AZURA BINTI ARIFIN

UNIVERSITI UTARA MALAYSIA
2011

DEVELOPING SMALL AND MEDIUM ENTERPRISE (SME) BUSINESS
PORTAL BASED ON INFORMATION STRATEGY PLANNING (ISP)

A project submitted to the Dean of Postgraduate Studies and Research in partial
fulfillment of the requirement for the degree
Master of Science Information Technology
Universiti Utara Malaysia

By
Nurull Azura Binti Arifin



KOLEJ SASTERA DAN SAINS
(College of Arts and Sciences)
Universiti Utara Malaysia

PERAKUAN KERJA KERTAS PROJEK
(Certificate of Project Paper)

Saya, yang bertandatangan, memperakukan bahawa
(I, the undersigned, certifies that)

NURULL AZURA ARIFIN
(806329)

calon untuk Ijazah
(candidate for the degree of) **MSc. (Information Technology)**


telah mengemukakan kertas projek yang bertajuk
(has presented his/her project of the following title)

DEVELOPING SMALL AND MEDIUM ENTERPRISE (SME) BUSINESS
PORTAL BASED ON INFORMATION STRATEGY PLANNING (ISP)


seperti yang tercatat di muka surat tajuk dan kulit kertas projek
(as it appears on the title page and front cover of project)

bahawa kertas projek tersebut boleh diterima dari segi bentuk serta kandungan
dan meliputi bidang ilmu dengan memuaskan.
(that this project is in acceptable form and content, and that a satisfactory
knowledge of the field is covered by the project).

Nama Penyelia
(Name of Supervisor) : **ASSOC. PROF. MD. ZAHIR MAT CHA**

Tandatangan
(Signature) :  Tarikh (Date) : **20 FEBRUARI 2011**

Nama Penilai
(Name of Evaluator) : **MR. AHMAD TAJUDIN BAHARIN**

Tandatangan
(Signature) :  Tarikh (Date) : **20 FEBRUARI 2011**

AHMAD TAJUDIN BAHARIN
Pensyarah
Bidang Sains Human
UUM College of Arts & Sciences
Universiti Utara Malaysia

PERMISSION TO USE

In presenting this project in partial fulfillment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the University Library may make it freely available for inspection. I further agree that permission for copying of this project in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor, Assoc. Prof Md. Zahir Mat Cha, or in his absence, by the Dean of Postgraduate Studies and Research. It is understood that any copying or publication or use of this project or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my project.

Requests for permission to copy or to make other use of materials in this project, in whole or in part should be addressed to:

Dean of Postgraduate Studies and Research
College of Arts and Sciences
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman
Malaysia

ABSTRAK

Fokus kajian ini adalah untuk membangunkan prototaip laman portal yang dikenali sebagai Pembangunan portal untuk perniagaan industri kecil dan sederhana berdasarkan perancangan strategi maklumat (ISP). Tujuan utama kajian ini adalah untuk membantu dari segi pengetahuan dan sumber daya pengusaha yang terlibat di dalam perniagaan industri kecil dan sederhana (SME), di mana perancangan strategi maklumat akan dilaksanakan dalam kajian ini. Pendekatan Portal industri kecil dan sederhana (SME) ini adalah untuk merangsang pengusaha industri kecil an sederhana (SME) dalam prestasi perniagaan dengan menggunakan perancangan strategi sebagai panduan dan justifikasi untuk berjaya di dalam perniagaan ini. *Strategic View of business process and knowledge* metodologi akan digunakan dan terdapat dua fasa dalam kaedah *Strategic view of business process and knowledge* iaitu: fasa perancang strategic dan fasa perancang operasi. Ianya akan dimulai dengan perancangan, analisis keperluan dan diakhir kajian, prototaip portal untuk industri kecil dan sederhana (SME) ini akan direka bentuk dan dibangunkan berdasarkan keperluan pengguna. Kesimpulan dan kedapatan untuk masa hadapan akan turut sama dibincangkan.

ABSTRACT

The focus of this study is to develop a prototype of web portal known as Developing Small Medium Enterprise (SME) business Portal based on information strategy planning (ISP). The main objective of this study is to purpose knowledge and resources to assist the entrepreneur involved in small medium enterprise (SME) business, which is information strategy planning will be implement in this study. The portal for SME business approach is to stimulate the SME entrepreneur in business performance with strategy planning provides the direction and justification for a successful business. The Strategic view of business process and knowledge development methodology is used in this study, there are two phases in the method of Strategic view of business process and knowledge of: strategic planning phase and the operational planning methods phase. It will starts with planning, requirement analysis and at the end of this study, a Portal for SME business prototype will be designed and developed based on the user requirement. Conclusion and finding in future also will be discussed.

ACKNOWLEDGEMENTS

“In the Name of Allah the Most Gracious and Most Merciful”

First of all, I thanks to Allah SWT for giving me the strength to complete my Masters program generally and this project specifically.

I would like to express my deepest appreciation to my project supervisor, Assoc. Prof Md. Zahir Mat Cha, for his advices and assistances throughout this project. I would also like to thanks to my evaluator, Mr. Ahmad Tajudin, for his advice in the corrections of this project. I would also like to thanks for all lecturers from FTM, Universiti Utara Malaysia for educates me with lots of inputs, guidance and lectures during my study.

To my dearest mother and father; Mr. Arifin Ahmad and Mdm Kholijah Abu Bakar , my fiancé; Mr. Kamal Hassan Khalid, who always encouraged and supported me, thank you for making this task easier with the care, love and understanding. I really appreciate for your patients and supports.

I also thank to Mr Abdul Rahman bin Ibrahim(Assistant Agriculture Officer) and Miss Fatina Mahaya binti mohd Maiyudin(Agriculture Assistant) from Agricultural Departments State of Kedah Darul Aman and the entrepreneur Small and Medium Enterprise in Food Industry for the cooperation during my data collection. To my best friends Fatimah Salleh and Alina Ismail, thank you for giving me spirit and sharing any information during this project all the time. I also thank to my Roommate, Fara; thanks for your helpful and also for everyone who directly and indirectly contributed and helped me to go through the hard time in finishing this project.

May Allah bless all of us.

TABLE OF CONTENTS

	Page
PERMISSION TO USE	ii
ABSTRAK	iii
ABSTRACT	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	vi
LIST OF TABLES	x
LIST OF FIGURES	xi
LIST OF ABBREVIATIONS	xii
CHAPTER 1 INTRODUCTION	
1.1 Introduction	1
1.2 Background	1
1.3 Motivation for research	2
1.4 Problem Statement	3
1.5 Research Objective	4
1.6 Scope	4
1.6.1 Entrepreneur	5
1.6.2 Marketing	5
1.6.3 Strategy	6
1.6.4 Planning	6
1.7 Significance of the Research	7
1.8 Target User	7
1.9 Limitation of Study	7
1.10 Report Structure	8
CHAPTER 2 LITERATURE REVIEW	
2.1 Introduction	9
2.2 Small And Medium Enterprise	9
2.2.1 Definition of SME	10

2.2.2	Development of SME	11
2.2.3	Marketing	13
2.3	SMEs Portal or Website	14
2.4	Information Strategy Planning	15
2.4.1	Business Strategic Planning	16
2.5	Conclusion	16

CHAPTER 3 RESEARCH METHODOLOGY

3.1	Introduction	17
3.2	Planning	18
3.3	Requirement Analysis	18
3.4	Design and Development	19
3.4.1	Prototyping	19
3.4.2	Hardware and Software	21
3.5	Data Collection	22
3.5.1	Questionnaire	22
3.6	Data Analysis	23
3.7	Conclusion	23

CHAPTER 4 DEVELOPMENT AND RESULT

4.1	Introduction	24
4.2	Data Requirement	24
4.2.1	Types of SME	24
4.2.2	Categories of SME	26
a)	Industry Based on Metal	26
b)	Industry Based on Plastic	26
c)	Industry Based on Source	26
d)	Industry Based on Automotive	26
e)	Industry Based on Electric and Electronic Component	26
f)	Industry Based on Food Process	27
g)	Industry Based on Chemical	27
h)	Industry Based on Pharmaceutical	27
4.2.2	Finding of interview without portal	27
4.3	Information Strategy Planning	29

4.3.1	Strategic Plan	29
4.3.2	Operational Plan	29
4.3.3	Strategic plan vs Operational plan	30
4.4	Prototype	31
4.4.1	Requirement List	32
a)	Usecase Diagram	32
b)	Sequence Diagram	33
i)	Login	33
ii)	Register Profile	33
iii)	Manage Profile	34
iv)	Post Advertisement/announcement	35
v)	Search Profile	35
vi)	Upload form	36
vii)	View form	36
c)	Collaboration Diagram	37
i)	Login	37
ii)	Manage Profile	37
iii)	Advertisement	38
iv)	Register Profile	39
v)	Search Profile	39
vi)	Upload Form	40
vii)	View Form	41
viii)	View Information	42
4.5	Portal	42
4.5.1	Finding interview with the portal	43
4.5.2	Comparative analysis	43
4.5.3	Storyboard Component	45
4.5.4	Interface Component	47
4.6	Testing	49
4.6.1	Usability Testing	49
6.7	Conclusion	52

CHAPTER 5 CONCLUSION AND RECOMMENDATION

5.1	Introduction	53
-----	--------------	----

5.2	Overall Discussion of Findings	53
5.3	Recommendation for Future Work	55
5.4	Conclusion	55

REFERENCES	56
-------------------	-----------

APPENDICES

LIST OF TABLES

Table 2.1	Detail definition of SME by size
Table 2.2	Sample of SME Definition in the Asia-Pacific Region
Table 2.3	Comparison of the Composition of SMEs in the Asia-Pacific Region.
Table 3.1	List of Hardware and Software
Table 4.1	Questionnaire without portal
Table 4.2	Result of operational plan vs strategic plan
Table 4.3	Usability Testing of Developing SME portal through ISP

LIST OF FIGURES

Figure 1.1	SME Development Programmers in 2007
Figure 2.1	Percentage of SME Establishment by Sector.
Figure 3.1	Summary of research processes
Figure 3.2	Strategic View of Business processes and knowledge
Figure 4.1	Usecase Diagram for User and Admin
Figure 4.2	Sequence Diagram for Login
Figure 4.3	Sequence Diagram for Register Profile
Figure 4.4	Sequence Diagram for Manage Profile
Figure 4.5	Sequence Diagram for Post Advertisements/Announcement
Figure 4.6	Sequence Diagram for Search Profile
Figure 4.7	Sequence Diagram for Upload Form
Figure 4.8	Sequence Diagram for View Form
Figure 4.9	Collaboration Diagram for Login
Figure 4.10	Collaboration Diagram for Manage Profile
Figure 4.11	Collaboration Diagram for Advertisement
Figure 4.12	Collaboration Diagram for Register Profile
Figure 4.13	Collaboration Diagram for Search Profile
Figure 4.14	Collaboration Diagram for Upload Form
Figure 4.15	Collaboration Diagram for View Form
Figure 4.16	Collaboration Diagram for View Information
Figure 4.17	Agribazaar interface
Figure 4.18	IKS.Com interface
Figure 4.19	The storyboard of the main page
Figure 4.20	The storyboard of the training page
Figure 4.21	The storyboard of the loan page
Figure 4.22	The interface of the main page
Figure 4.23	The interface of the registration page
Figure 4.24	The interface of the training page
Figure 4.25	Chart for page is design in a clear and understandable manner
Figure 4.26	Chart for item in a good quality and enhances the presentation of information.
Figure 4.27	Chart for easy to learn

LIST OF ABBREVIATIONS

SME	Small and Medium Enterprise
ISP	Information Strategy Planning
ICT	Information and Communication Technology
MOSTI	Ministry of Science, Technology, and Innovation
IKS	Industri Kecil dan Sederhana
MARA	Majlis Amanah Rakyat
RM6	Rancangan Malaysia Ke-6 (The Sixth Malaysia Plan)
RM7	Rancangan Malaysia Ke-7 (The Seventh Malaysia Plan)
RM8	Rancangan Malaysia Ke-8 (The Eighth Malaysia Plan)
RM9	Rancangan Malaysia Ke-9 (The Ninth Malaysia Plan)
RM10	Rancangan Malaysia Ke-10 (The Tenth Malaysia Plan)
UUM	Universiti Utara Malaysia

LIST OF ABBREVIATIONS

SME	Small and Medium Enterprise
ISP	Information Strategy Planning
ICT	Information and Communication Technology
MOSTI	Ministry of Science, Technology, and Innovation
IKS	Industri Kecil dan Sederhana
MARA	Majlis Amanah Rakyat
RM6	Rancangan Malaysia Ke-6 (The Sixth Malaysia Plan)
RM7	Rancangan Malaysia Ke-7 (The Seventh Malaysia Plan)
RM8	Rancangan Malaysia Ke-8 (The Eighth Malaysia Plan)
RM9	Rancangan Malaysia Ke-9 (The Ninth Malaysia Plan)
RM10	Rancangan Malaysia Ke-10 (The Tenth Malaysia Plan)
UUM	Universiti Utara Malaysia

CHAPTER 1

INTRODUCTION

1.1 Introduction

In now day, Malaysia has been known as a country have own economy and politic with have a different community, race, and etc. The ability for the expansion of domestic as well as international markets requires full commitment from entrepreneur regardless of the size of the companies. The expansions plan not only focuses on large companies but also, involves Small and Medium Enterprise (SMEs). There have many issues are need to considered as success factor, entrepreneur have to place a marked emphasis on market assurance issues, product being marketable as well as the ability in winning market competition.

1.2 Background

Business is very important for generating growth and economic development. Economic development is a process of increase in total income and income per capita of the population and also is accompanied by fundamental changes in the structure of a country's economy, thus the distribution of income for the population of a country. Economic development cannot be separated from economic growth (Economic Growth); economic developments are stimulating economic growth and vice versa. Malaysia is countries have a different races, cultures, languages, and customs and also have stability in political and economy. Successful in manage its own country in their own became a factor of effectiveness of outside policy as a reference and practice. Malaysia also have been recognize as a development county have stability and solidity economic growth, thus it is become more influential when have a connecting with other country without bother their ideology.

In the near future, especially this year and next year, in line with what is outlined by the government (we should) settle the question of the economic issues, dealing with many problems occur at lower levels, important in managing the administrative, regional, etc. To ensure that in the not too soon, Malaysia will be out of the economic situation is not very good.

The contents of
the thesis is for
internal user
only

REFERENCES

- Ali, S. S., & Nelson, O. N. (2006). An Evaluation of SME Development in Malaysia. *International Review of Business Research Papers*. 2(1), 1-14.
- Andersen Consulting . (1987). *Foundation-Method/I: Information Planning*. 8.0. Chicago: Andersen Consulting.
- Booth, Wayne C., Gregory G. Colomb., & Joseph M. Williams. (1995). *The Craft of Research*. Chicago: The University of Chicago Press.
- Culkin, N., & Smith, D. (2000). An emotional business: A guide to understanding the motivations of small business decision takers. *Qualitative Market Research*, 3(3), 145-157.
- Cruz, T. (2003). *Systems, Methods & Processes*. Sao Paulo: Atlas.
- Day, D. (1996). Cultural bases of interface acceptance: foundations. In *People and Computers XI*, 35-47. Proceedings of HCI'96 (August 20-23, 1996, Imperial College). London: Springer-Verlag.
- Davenport, T.H. (1994, July). "Reengineering: Business Change of Mythic Proportions?" *MIS Quarterly*, 3,121-127.
- Dennis, A., Wixom, B. H., & Roth, R. M. (2006). *Systems analysis design* (3rd ed.). New Jersey: John Wiley & Sons, Inc.
- Dix, A., Finlay, J., Abowd, G., & Beale, R. (2004). *Human computer interaction*. England: Prentice Hall International.
- Driscoll, D. L., & Brizee, A. (2010). *Observing*. Retrieved 22 December 2010, from <http://owl.english.purdue.edu/owl/resource/559/07/>.
- Fletcher D. (2005). A family-embeddedness view of entrepreneurship. In M Raffa, L Iandoli (Eds.), *Entrepreneurship Competitiveness and Local Development – RENT XIX Proceedings*. Edizioni Scientifiche Italiane: Rome
- Finkelstein, C. (1992). *Information Engineering: Strategic Systems Development*. Addison-Wesley Pub. Singapore: Co.
- Hares, J.S. (1992). *Information Engineering for the Advanced Practitioner*. John Wiley & Sons : Chichester, GB.
- Harrington, H.J. (1991). *Business Process Improvement: the Breakthrough Strategy*

for Total Quality, Productivity and Competitiveness. New York : McGraw-Hill, NY.

Harrington, H.J. (1993). *Improving Business Processes*. New York : Makron Books.

Hasnah Ali & Faridah Shahadan. (1995). Pendahuluan. Dlm. Rahmah Ismail (pnyt.). *Industri Kecil Malaysia, Isu Pembiayaan, Teknologi dan Pemasaran*. Bangi: Penerbit UKM.

Jamalludin Harun, Baharuddin Aris, Zaidatun Tasir. (2003). *Pembangunan Perisian Multimedia Satu Pendekatan Sistematis*. Kuala Lumpur, Malaysia: Venton Publishing.

Johansson, H.J., McHugh, P., Pendlebury, A.J., & Wheller, W.A. (1993). *Business Process Reengineering: Breakpoint Strategies for Market Dominance*. England : John Wiley & Sons.

Kazem, A., & van der Heijden, B. (2006). Exporting Firms' Strategic Choices: The Case of Egyptian SMEs in the Food Industry. *SAM Advanced Management Journal*, 71(3), 21-33

Kementerian Perdagangan Antarabangsa dan Industri Malaysia. (2006). *Pelan Induk Perindustrian Ketiga (IMP3) 2006-2020: Malaysia – Ke Arah Daya Saing Global*.

Kendall, K. E., & Kendall, J. E. (2008). *Systems analysis and design* (7th ed.). New Jersey: Pearson Education, Inc

Kothari, C.R. (1990). *Research Methodology: Methods and Techniques*. (2 ed). New Delhi : Vishwaprakash.

Lois, E. R. (1998). *Performing A Literature Review*. Mathematician, System Engineering Division. Naval Air Warfare Center Weapons Division., China Lake.

Malaysia growth and development retrieved on 18 December 2010 from http://www.bnm.gov.my/files/publication/qb/2009/Q1/bm_p3.pdf

Majlis Pembangunan PKS Kebangsaan. (2007). *Laporan Tahunan PKS 2006*. Kuala Lumpur: Bank Negara Malaysia.

Mampu. (2003). ICT stratgey plan (ISP) guideline: Standarts, Policies and

Guidelines, version 1.0. Government of Malaysia.
<http://www.mampu.gov.my/mampu/pdf/ISPlan/ispdoc/ICT%20Strategic%20Plan%20%28ISP%29%20Guidelines.pdf>

- Martin, J. (1990). *Information Engineering Book II: Planning and Analysis*. Englewood Cliffs : Prentice Hall, NJ.
- Martin, J. (1989). *Information Engineering Book I: Introduction*. Prentice Hall ; Englewood Cliffs, NJ.
- McNurlin, B., Sprague, R., & Bui, T. (2009). *Information Systems Management in Practice*, (8th Ed). Upper Saddle River, New Jersey: Prentice Hall.
- MIMOS. (2004). Use of FOSS in AgriBazaar. Agribazaar, MIMOS Bhd.
http://r0.unctad.org/ecommerce/event_docs/fossem/azzman_agribazaar.pdf
- Moha Asri Abdullah et al. (1997a). *Industri Kecil dan Sederhana di Malaysia tinjauan terhadap perkembangan program Bantuan*, Shah Alam; Fajar Bakti Sdn. Bhd.
- Mohamed Khaled Nordin. (2009). Memantapkan Budaya Keusahawanan Di Kalangan Generasi Baru Melalui Sistem Pendidikan Nasional dan Pengajian Agama: Gagasan dan Cabaran Merealisasikannya. Kertas Kerja dibentangkan di Kongres Ekonomi Islam Ketiga (Ke-13), Dewan Merdeka, PWTC, Kuala Lumpur, 12-15 Januari 2009).
- Moodley, S. (2002). 'E-Business in the South African Apparel Sector: a Utopian Vision of Efficiency?' *The Developing Economics*, 67-100.
- National SME Development Council, (2007). *Key Programmes for SME Development*, Section 3. Page 51-121.
http://www.bnm.gov.my/files/publication/sme/en/2006/chap_4.pdf
- Nanthakumar et al. (2004). *Perusahaan Kecil dan Sederhana(PKS) Kajian Kes: Pesisiran Pantai Timur Semenanjung Malaysia*, The 4th International Malaysian Studies Conference. MSC4:UKM, Bangi.
- Newstraatstimes. (2010, June 21). Tech: From planting to selling.
- Nielsen, J. (1993). *Usability engineering*. Boston: AP Professional.
- Nik Rahimah Nik Yacob et al. (1992). *Asas Pemasaran*. Shah Alam: Penerbit Fajar Bakti.
- Nurulnadwan Aziz, Nur-Hazwani Roseli, & Ariffin Abdul Mutalib. (2009).

- Guidelines for assistive courseware for visually-impaired people. In *Proceedings of IVIC'09*. LNCS 5857. Scopus: SpringerLink.
- Olson, S. F., & Currie, H. M. (1992). Female entrepreneurs: Personal value systems and business strategies in a male-dominated industry. *Journal of Small Business Management*, 30(1), 49-57.
- Overview Of SMIs/SMEs (Archive 2009) retrieved on 22 Dec 2010 from <http://www.smibusinessdirectory.com.my/smisme-editorial/about-smisme/all-about-smisme/306-overview-of-smisssmes-archive-2009.html>
- Piccoli, G. (2008). *Information Systems for Managers: Text & Cases*. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Portal AgriBazaar Retrieved on 27 Nov 2010 from <http://www.agribazaar.com.my>
- Preece, J., Rogers, Y., & Sharp, H. (2007) . *Interaction Design: beyond human-computer interaction* (2nd Ed.). England: John Wiley& Sons, Ltd.
- Rahmah Ismail. (1995). *Industri Kecil Malaysia Isu Pembiayaan, teknologi dan Pemasaran*, Bangi: Universiti Kebangsaan Malaysia.
- Rancangan Malaysia Ke-Lapan (RMK-8). (2001). Taburan Penduduk Mengikut Kawasan Pihak Berkuasa Tempatan dan Mukim. Pencetakan Nasional Berhad Malaysia. Kuala Lumpur. Jabatan Perangkaan Malaysia
- Rummler, G.A. & Brache, A.P. (1995). *Improving Performance: How to Manage the White Space on the Organization Chart*. (2nd ed). San Francisco : Jossey-Bass Publishers.
- Saleh, A.S. & Ndubisi, N.O. (2006). 'An Evaluation of SME Development in Malaysia'. *International Review of Business Research Papers*, 2(1), 1-14.
- Sazelin Arif. (2009). *Keupayaan Pemasaran dalam Kalangan Pengusaha Kecil Makanan Halal di Melaka Tengah : Satu Kajian Awal*. MALIM , 10(2009), 183-208.
- Semos, A. dan A. Kontogeorgos. (2007). HACCP Implementation in Northern Greece: Food Companies' Perception of Costs and Benefits. *British Food Journal*. 109(1), 5-19.
- Shamsudin Ahmed, Masjuki Hj Hassan dan Zahari Taha. (2004). State of Implementation of TPM in SMIs: A Survey Study in Malaysia. *Journal of Quality in Maintenance Engineering*. 10(2), 93-106.

- Siti Rahayu Hussin et al.(2004). *Asas Pemasaran*. Shah Alam : Mc Graw Hill.
- SMIDE (2005). SME Performance Report. Retrieved on 22 Dec 2010 from http://www.smidec.gov.my/pdf/SME_Performance_Report_2005.pdf
- SME Annual Report 2009/10. *Transformation to the New Economic Mode*.SME Development and Outlook. <http://www.smecorp.gov.my/node/1188>
- Stonehouse, G., & Pemberton, J. (2002). 'Strategic Planning in SMEs - Some Empirical Findings',*Management Decision*, 40 (9), 853-861.
- Utusan Malaysia. (2010). *Virtual Scope bantu usahawan IKS bina laman web promosi produk*. Kuala Lumpur
http://utusan.com.my/utusan/info.asp?y=2010&dt=1216&pub=Utusan_Malaysia&sec=Agrobiz&pg=ag_01.htm
- Villela, C.S.S. (2000). Process Mapping as a Tool Restructuring and Organizational Learning. *M.Sc. Thesis, Industrial Engineering*, PPEP / UFSC, SC, Brazil.
- White Paper on Small and Medium Enterprises in Taiwan. (2006). Retrieve on 02 Jan 2011 from <http://www.moeasmea.gov.tw/eng/2006whitepaper/2006white.asp>
- Whitten, J. L., Bentley, L. D., & Dittman, K. C. (2001). *Systems analysis and design methods* (5th Ed.). New York: McGraw-Hill.
- Yusof, Sha'ri, M. dan Aspinwall, Elaine. (2000). TQM Implementation Issues: and Case Study. *International Journal of Operations and Production Management*. 20(6): 634-655.
- Zulkhairi, M.D. (2005). Implementing Information Strategy Planning in an Enterprise. Universiti Utara Malaysia Publication, Sintok, Kedah.